TECHNICAL MANUAL
Of
VIA VX800
Based
Mini-ITX M/B For VIA C7/Eden/Nano
Processor

NO.G03-NF77-F

Rev.2.0

Release date: December, 2008

Trademark:

*** Specifications and Information contained in this documentation are furnished for information use only, and are subject to change at any time without notice, and should not be construed as a commitment by manufacturer.**

Environmental Protection Announcement

Do not dispose this electronic device into the trash while discarding. To minimize pollution and ensure environment protection of mother earth, please recycle.

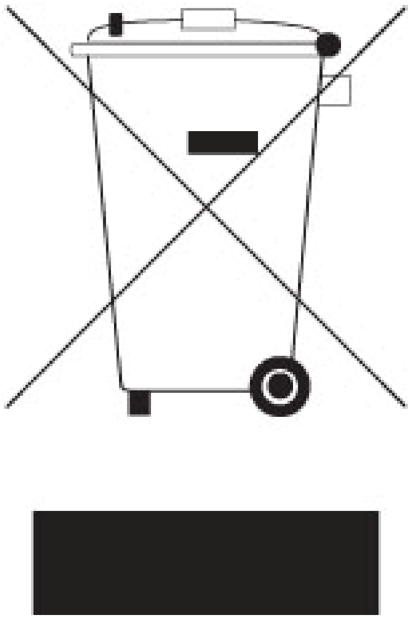


TABLE OF CONTENT

USER'S NOTICE

THIS MANUAL CONTAINS ALL INFORMATION REQUIRED TO USE VIA VX800 CHIPSET MOTHER-BOARD SERIES AND WE DO ASSURE THIS MANUAL MEETS USER'S REQUIREMENT BUT WILL CHANGE, CORRECT ANY TIME WITHOUT NOTICE. MANUFACTURER PROVIDES THIS MANUAL "AS IS" WITHOUT WARRANTY OF ANY KIND, AND WILL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTIAL OR CONSEQUENTIAL DAMAGES (INCLUDING DAMANGES FOR LOSS OF PROFIT, LOSS OF BUSINESS, LOSS OF USE OF DATA, INTERRUPTION OF BUSINESS AND THE LIKE).

PRODUCTS AND CORPORATE NAMES APPEARING IN THIS MANUAL MAY OR MAY NOT BE REGISTERED TRADEMARKS OR COPYRIGHTS OF THEIR RESPECTIVE COMPANIES, AND THEY ARE USED ONLY FOR IDENTIFICATION OR EXPLANATION AND TO THE OWNER'S BENEFIT, WITHOUT INTENT TO INFRINGE.

Manual Revision Information

Reversion	Revision History	Date
2.0	Second Edition	December, 2008

Item Checklist

☑ Motherboard
☑ Cable(s)
☑ CD for motherboard utilities
☑ Motherboard User's Manual
☑ I/O Back panel Shield

Chapter 1

Introduction of the Motherboard

1-1 Feature of motherboard

* VIA VX800 chipset.

*Onboard optional C7/Eden/Nano CPU, with low power consumption and never denies high performance.

* Support optional FSB 400/533 /800MHz.

* Support DDRII 400/533/667 up to 2GB.

* Onboard REALTEK RTL 8111C Gigabit Ethernet LAN.

* Integrated VIA 1708 B 6-channel HD audio CODEC

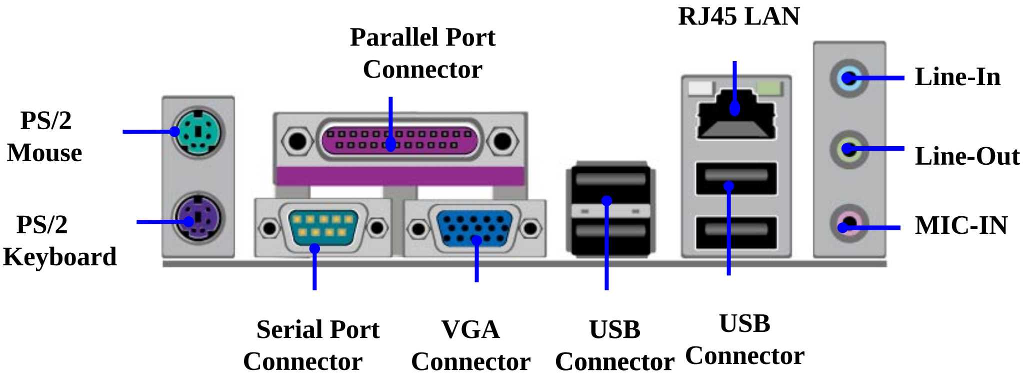
* Support USB2.0 data transport demands.

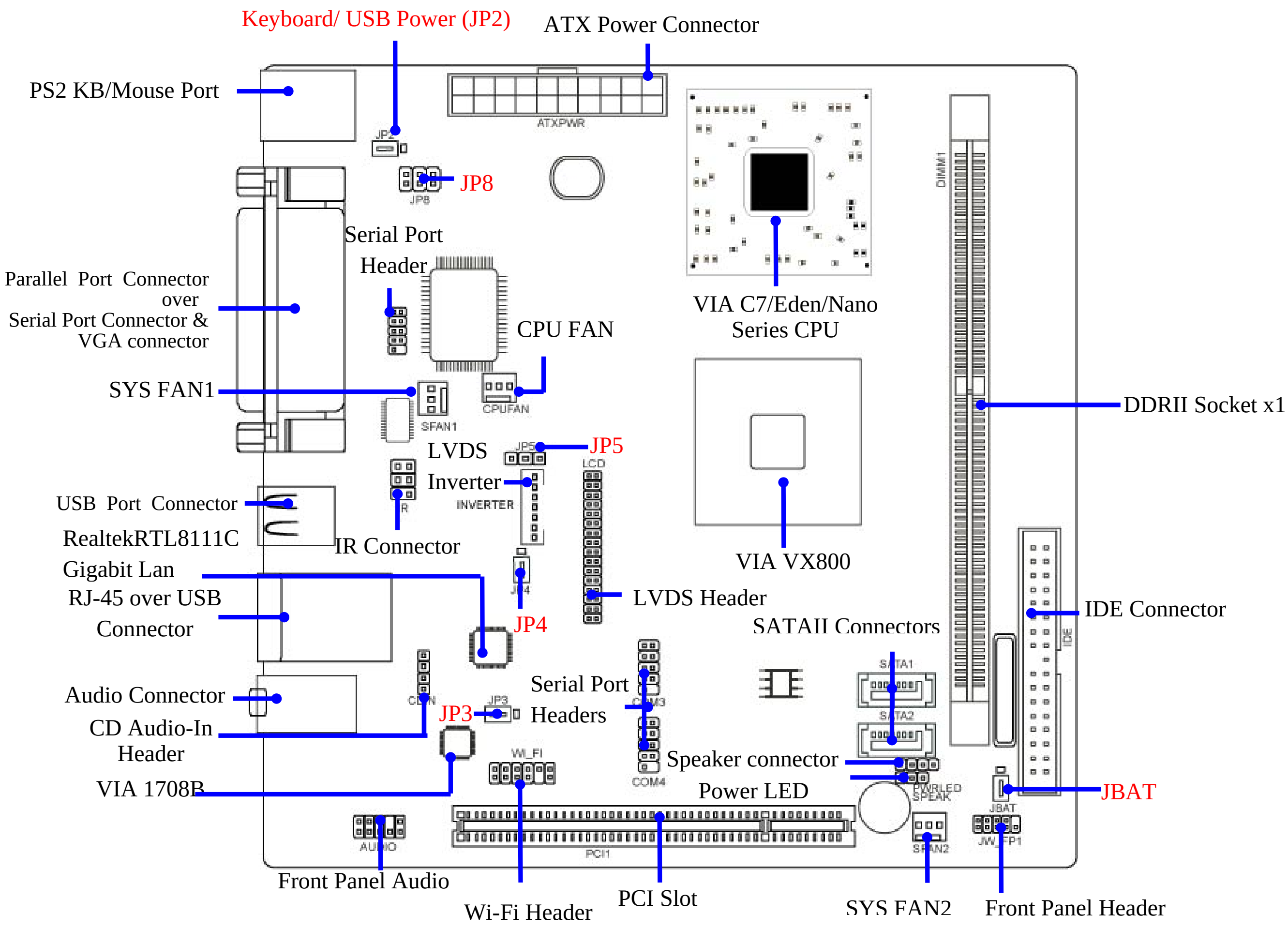
1-2 Specification

Spec	Description
Design	* Mini ITX form factor 4 layers PCB size: 17.0x17.0cm
Chipset	* VIA VX800 Chipset
Embedded CPU	* Optional VIA C7 /Eden/Nano seriesCPU
Memory Socket	* 240-pin DDRII DIMM socket x1 * Support DDRII 400/533/667MHz system Modules DDR memory * Expandable to 2GB.
Expansion Slots	* 32-bit PCI slot x 1pcs
Integrate IDE	* One PCI IDE controller that supports PCI Bus Mastering, ATA PIO/DMA and the ULTRA DMA 133/100/66 functions that deliver the data transfer rate up to 133 MB/s;
LAN	* Integrated Realtek RTL8111C PCI-E LAN chip. * Support Fast Ethernet LAN function of providing 10Mb/100Mb/1000Mb Ethernet data transfer rate
Audio	* VIA 1708B 6-channel Audio Codec integrated * Audio driver and utility included
BIOS	* Award 4MB Flash ROM
Multi I/O	* PS/2 keyboard and PS/2 mouse connectors * Serial port connector x1/Parallel connector x1 * VGA connectorx1 * USB2.0 port x 4 * RJ45 LAN connector x1 * Audio connector x1 (Line-in, Line-out, MIC/ 6CH Audio) * LVDS inverter connector x1 * LCD header x1 * COM header x 3

	* IR header x1 * Wi-Fi header x1 * Audio header x 1/ CDIN header x1 * Front Panel header x1 * Hard disk drive connector x1 * SATAII connector x2

1-3 Layout Diagram





Keyboard/ USB Power (JP2)
ATX Power Connector
PS2 KB/Mouse Port
JP8
Parallel Port Connector over Serial Port Connector & VGA connector
Serial Port Header
VIA C7/Eden/Nano Series CPU
CPU FAN
SYS FAN1
DDRII Socket x1
LVDS Inverter
JP5
USB Port Connector
RealtekRTL8111C Gigabit Lan RJ-45 over USB Connector
IR Connector
VIA VX800
LVDS Header
JP4
IDE Connector
SATAII Connectors
Audio Connector
Serial Port Headers
CD Audio-In Header
JP3
Speaker connector
Power LED
JBAT
VIA 1708B
Front Panel Audio
Wi-Fi Header
PCI Slot
SYS FAN2
Front Panel Header

Jumper

Jumper	Name	Description	Page
JP2	KB/USB Power On Function Setting	3-pin Block	P.7
JBAT	CMOS RAM Clear Function Setting	3-pin Block	P.7
JP3	USB Power On Function Setting	3-pin Block	P.8
JP4	LVDS Voltage 5V/3.3V Select	3-pin Block	P.8
JP5	LVDS Inverter Power On Setting	3-pin Block	P.9
JP8	Power RS232 Function Select	6-pin Block	P.9

Connectors

Connector	Name	Description	Page
PS2KBMS1	Keyboard & Mouse Connector	6-pin Female Connector	p.10
COM1	Serial Port Connector	9-pin Connector	p.10
VGA	Video Graphic Attach Connector	D-sub 15-pin Female	p.10
PARALLEL	Parallel Port Connector	25-Pin Connector	p.10
USB1,USB2	USB Port Connector	4-pin Connector	p.10
RJ-45 from UL2	RJ-45 LAN Connector	8-pin Connector	p.10
AUDIO1	Line-Out /MIC/Line-In Audio Connector	3 Phone Jack	p.10
IDE1	IDE Hard Disk Drive Connector	40-pin IDE Block	
SATA1,2	Serial ATA Connectors	7-pin Connector	

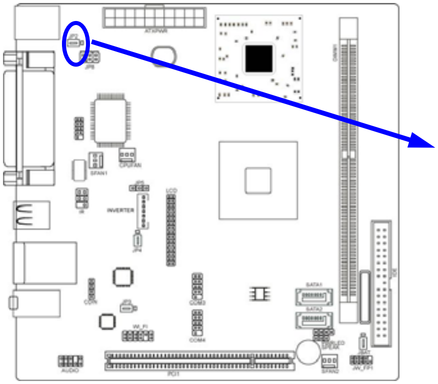
Headers

Header	Name	Description	Page
AUDIO	Front panel audio Headers	9-pin block	P.11
CDIN	CD Audio-In Header	4-pin Block	P.12
COM 2，3，4	Serial Port COM1 Connector	9-pin Block	p.12
WI-FI	Wi-Fi Header	11-pin Block	P.13
LCD	LVDS Connector	32-pin Block	P.13
Inverter	LVDS Inverter Connector	7-pin Block	P.14
IR	IR infrared module Headers	5-pin Block	P.15
SPEAK	Speaker Header	3-pin Block	P.15
PWR LED	Power LED	4-pin Block	P.16
JW_FP (PWR LED/ IDE LED/ /Power Button /Reset)	Front Panel Header (PWR LED/ IDE LED/ /Power Button /Reset)	9-pin Block	P.16
SFAN1, SFAN2,CPU FAN	FAN Headers	3-pin Block	P.16

Chapter 2

2-1 Jumper Setting

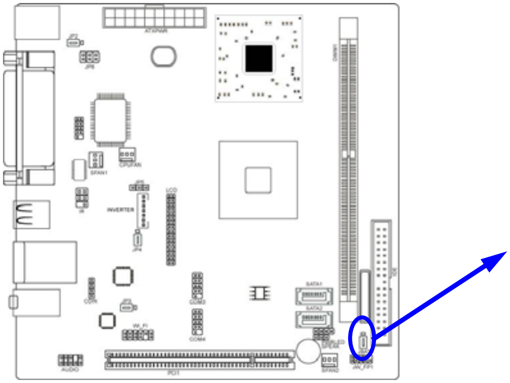
(1) JP2: KB/USB Power On Function Setting





1-2 K.B&USBPOWER-ON Disacled(default) **2-3 K.B& USB POWER-ON Enabled**

(2) JBAT : Clear CMOS (3-pin)

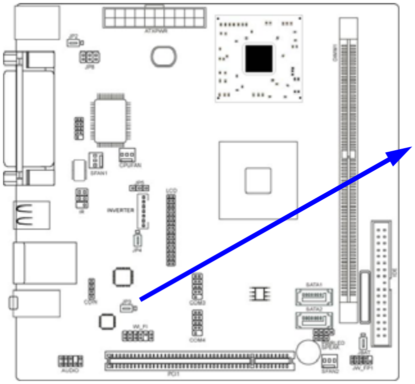


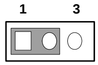


1-2 closed Normal **2-3 closed Clear CMOS**

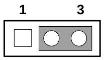
CMOS RAM Clear Setting

(3) JP3: USB Power On Function Setting (3-pin)



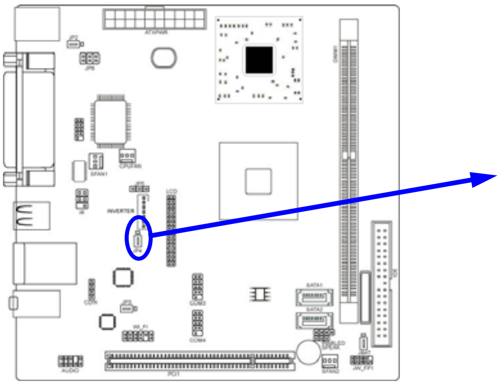
JP3 

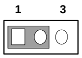
1-2 USB Power-on Disacled(default)

JP3 

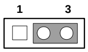
2-3 USB Power-on Enabled

(4) JP4: LVDS VDD setting (3-pin)



JP4 

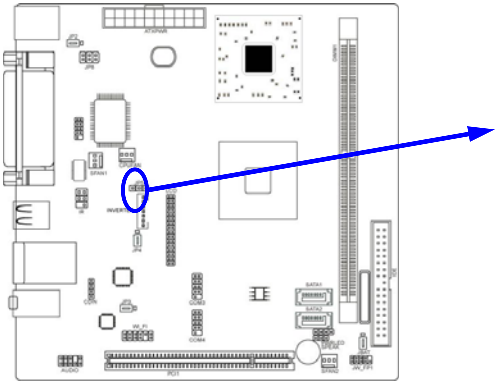
1-2 closed: 5V

JP4 

2-3 closed : 3.3V

LVDS VDD setting

(5) JP5: LVDS Inverter Backlight Setting (3-pin)



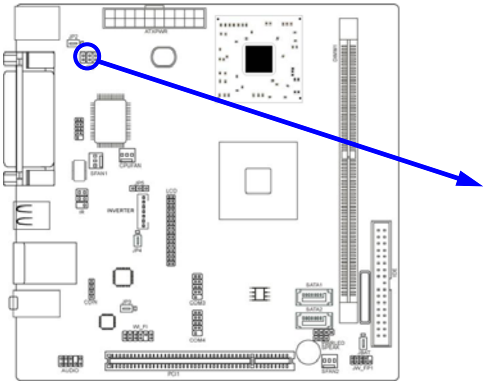


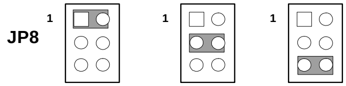
1-2 closed: Off

2-3 closed : On

LVDS Inverter Backlight Setting

(6) JP8: Powered RS232 Function Select





1-2 closed: RS232

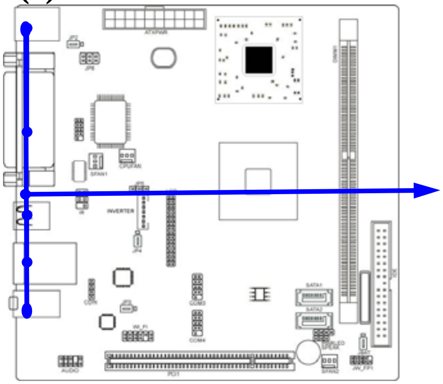
3-4 closed : +12V

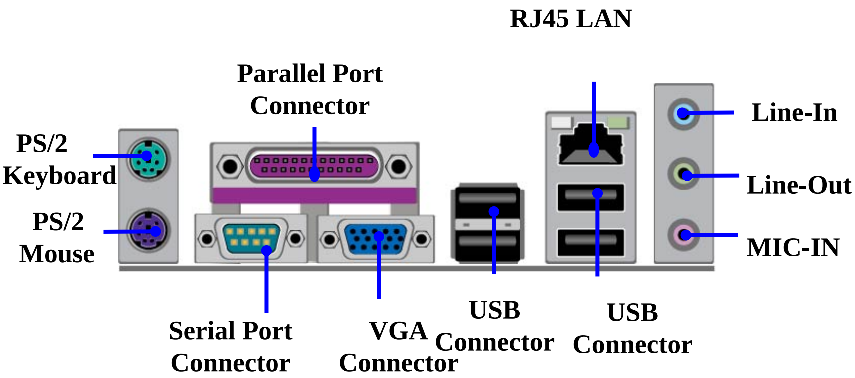
5-6 closed : +5V

2-2 Connectors and Headers

2-2-1 Connectors

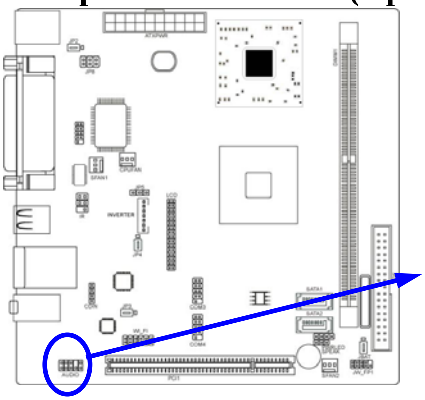
(1) I/O Back Panel Connector

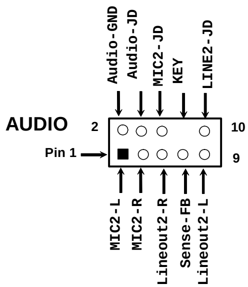




2-2-2 Headers

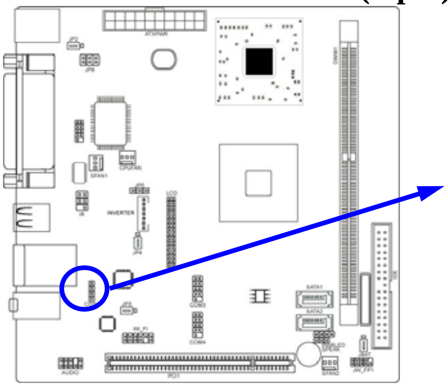
(1) Front panel audio header (9-pin): AUDIO

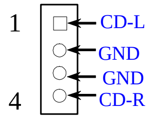




Line-Out, MIC Headers

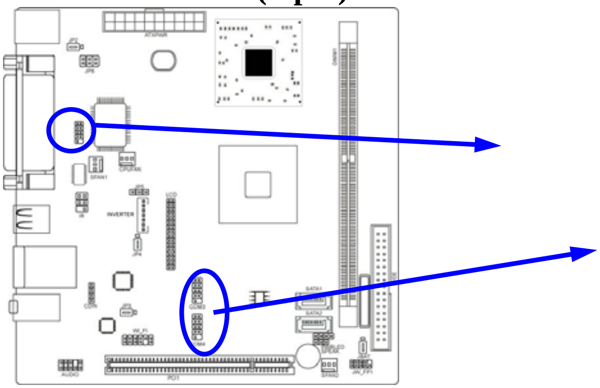
(2) CD AUDIO-In Headers (4-pin): CDIN

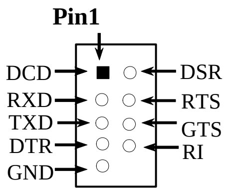




CD Audio-In Headers

(3) COM Connectors (9-pin): COM2/COM3/COM4

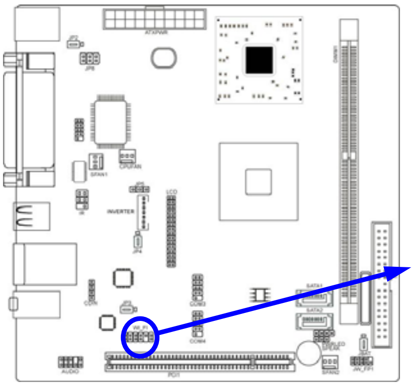


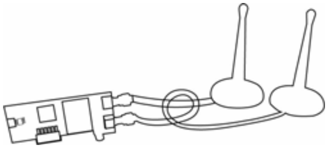


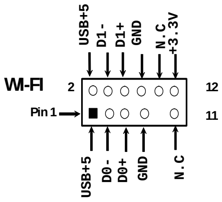
Serial Port 9-pin Block

(4)Wi-Fi header: WI-FI

This header supports WI-FI Function. Connect the wireless local area network adapter to this header. It allows you to create a wireless environment and enjoy the convenience of wireless network connectivity.

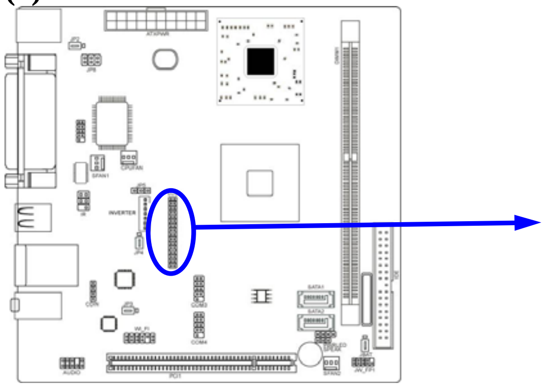


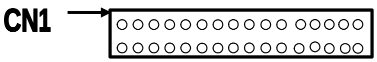




WI-FI Headers

(5)LVDS Headers: LCD

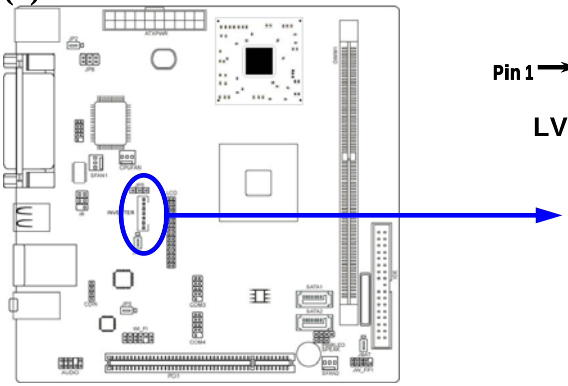




LVDS Headers

Pin NO.	Pin Define	Pin NO.	Pin Define
Pin 1	R2IN3-	Pin 2	R2IN3+
Pin 3	CK2IN-	Pin 4	CK2IN+
Pin 5	R2IN2-	Pin 6	R2IN2+
Pin 7	R2IN1-	Pin 8	R2IN1+
Pin 9	R2IN0-	Pin 10	R2IN0+
Pin 11	GND	Pin 12	GND
Pin 13	GND	Pin 14	GND
Pin 15	GND	Pin 16	GND
Pin 17	R1IN3+	Pin 18	R1IN3-
Pin 19	CK1IN+	Pin 20	CK1IN-
Pin 21	R1IN2+	Pin 22	R1IN2-
Pin 23	R1IN1+	Pin 24	R1IN1-
Pin 25	R1IN0+	Pin 26	R1IN0-
Pin 27	VDD	Pin 28	VDD
Pin 29	VDD	Pin 30	VDD
Pin 31	GND	Pin 32	GND

(6)Pin-headers of LVDS Inverter: INVERTER

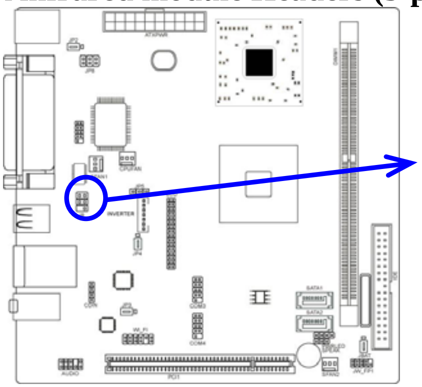


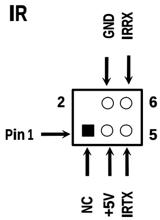


LVDS Inverter

PIN No.	Symbol
1	+12VIN
2	+12VIN
3	GND
4	GND
5	LVDS Panel backlight enable
6	GND
7	Panel backlight brightness control

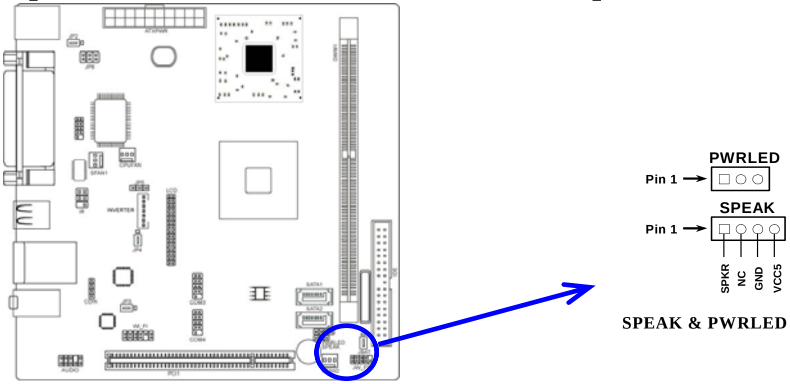
(7) IR infrared module Headers (5-pin): IR





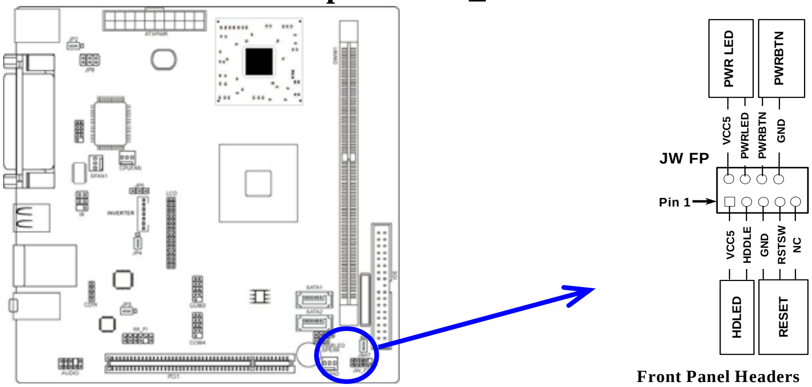
IR infrared module Header

(8) Speaker Header & Power Led Header（9-pin）: SPEAK/ PWRLED



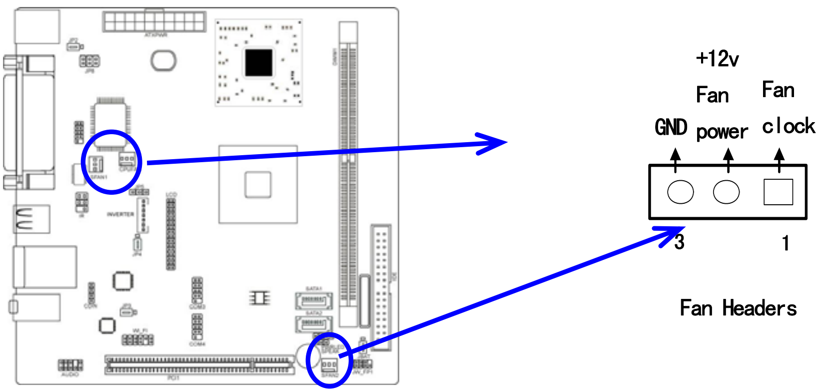
SPEAK & PWRLED Header

(9) Front Panel Header（9-pin）: JW_FP



Front Panel Headers

(10) FAN Speed Headers (3-pin): CPUFAN, SFAN1/SFAN2



Chapter 3

Introducing BIOS

The BIOS is a program located on a Flash Memory on the motherboard. This program is a bridge between motherboard and operating system. When you start the computer, the BIOS program will gain control. The BIOS first operates an auto-diagnostic test called POST (power on self test) for all the necessary hardware, it detects the entire hardware device and configures the parameters of the hardware synchronization. Only when these tasks are completed done it gives up control of the computer to operating system (OS). Since the BIOS is the only channel for hardware and software to communicate, it is the key factor for system stability, and in ensuring that your system performance as its best.

In the BIOS Setup main menu of Figure 3-1, you can see several options. We will explain these options step by step in the following pages of this chapter, but let us first see a short description of the function keys you may use here:

- Press <Esc> to quit the BIOS Setup.

- Press ↑↓←→ (up, down, left, right) to choose, in the main menu, the option you want to confirm or to modify.
- Press <F10> when you have completed the setup of BIOS parameters to save these parameters and to exit the BIOS Setup menu.
- Press Page Up/Page Down or +/– keys when you want to modify the BIOS parameters for the active option.

3-1 Entering Setup

Power on the computer and by pressing <Del> immediately allows you to enter Setup.

If the message disappears before your respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt> and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to

Press <F1> to continue, or <Del> to enter Setup

3-2 Getting Help

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu/Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <Esc>.

3-3 The Main Menu

Once you enter Award® BIOS CMOS Setup Utility, the Main Menu (Figure 3-1) will appear on the screen. The Main Menu allows you to select from fourteen setup functions and two

exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

Phoenix – AwardBIOS CMOS Setup Utility

Standard CMOS Features	Miscellaneous Control
Advanced BIOS Features	Load Optimized Defaults
Advanced Chipset Features	Load standard Defaults
Integrated Peripherals	Set Supervisor Password
Power Management Setup	Set User Password
PnP/PCI Configurations	Save & Exit Setup
PC Health Status	Exit Without Saving
Esc : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	

Figure 3-1

Standard CMOS Features

Use this Menu for basic system configurations.

Advanced BIOS Features

Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management Setup

Use this menu to specify your settings for power management.

PnP/PCI Configuration

Use this menu to specify your settings for PnP and PCI configurations.

PC Health Status

This entry shows your PC health status.

Miscellaneous Control

Use this menu to specify your settings for Miscellaneous Control.

Load Optimized Defaults

Use this menu to load the BIOS default values these are setting for optimal performances system operations for performance use.

Load Standard Defaults

Use this menu to load the BIOS default values for the minimal/stable performance system operation

Set Supervisor Password

Use this menu to set supervisor password.

Set User Password

Use this menu to set user password.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

3-4 Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into several categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

Phoenix – AwardBIOS CMOS Setup Utility
Standard CMOS Features

```
Date (mm:dd:yy)            Wed, Aug13, 2008      |  Item Help
Time (hh:mm:ss)             16 : 48 : 35         |
> IDE Channel0   Master      None                |  Menu Level >
> IDE Channel0   Slave       None                |
> IDE Channel 1 Master       None                |  Change the day, month,
> IDE Channel 1 Slave        None                |  year and century
Video                        EGA/VGA             |
Halt On                  All, But keyboard       |
Base Memory                  1664k               |
Extended Memory             392192k              |
Total Memory                393216k              |

↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit  F1:General Help
     F5:Previous Values   F6:Optimized Defaults   F7:Standard Defaults
```

Date

The date format is <day><month><date><year>.

- **Day** Day of the week is from Sun to Sat, determined by BIOS. Read-only.
- **Month** The month is from Jan. through Dec.
- **Date** The date from 1 to 31 can be keyed by numeric function keys.
- **Year** The year depends on the year of the BIOS.

Time

The time format is <hour><minute><second>.

IDE Channel 0/1 Master/Slave

Press Enter and then PgUp/<+> or PgDn/<–> to select Manual, None, Auto type. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If the type of hard disk drives is not matched or listed, you can use Manual to define your own drive type manually.

If you select Manual, related information is asked to be entered to the following items. Enter the information directly from the keyboard. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is SCSI, the selection shall be “None”.

If the controller of HDD interface is CD-ROM, the selection shall be “None”

Access Mode	The settings are CHS, LBA, Large and Auto.
Cylinder	number of cylinders
Head	number of heads
Precomp	write precomp
Landing Zone	landing zone
Sector	number of sectors

3-5 Advanced BIOS Features

Phoenix – AwardBIOS CMOS Setup Utility

Advanced BIOS Features

		Item Help
CPU Feature	Press Enter	Menu Level >
Hard Disk Boot Priority	Press Enter	
Virus Warning	Disabled	
CPU L1&L2 Cache	Enabled	
CPU L2 Cache ECC Checking	Enabled	
Quick power on self Test	Enabled	
First Boot Device	CDROM	
Second Boot Device	HARD DISK	
Third Boot Device	LS120	
Boot other Device	Enabled	
Boot Up NumLock Status	On	
Typematic Rate Setting	Disabled	
Typematic Rate (Chars/Sec)	6	
Typematic Delay (Msec)	250	
Security Option	Setup	
MPS Version Control For OS	1.4	
OS Select For DRAM > 64MB	Non-OS2	
HDD S.M.A.R.T. Capability	Disabled	
Video BIOS Shadow	Enabled	

↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

Hard Disk Boot Priority

The selection is for you to choose the hard disk drives priorities to boot from.

Virus Warning

The selection Allow you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.

Disabled (default)	No warning message to appear when anything attempts to access the boot sector or hard disk partition table.
Enabled	Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector of hard disk partition table.

CPU L1&L2 Cache

The default value is Enabled.

Enabled (default)	Enable cache
Disabled	Disable cache

Note: The internal cache is built in the processor.

Quick Power On Self-Test

This category speeds up Power On Self Test (POST) after you power on the computer. If this is set to Enabled, BIOS will shorten or skip some check items during POST.

Enabled (default)	Enable quick POST
Disabled	Normal POST

First/Second/Third Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items. The optional settings are LS120, Hard disk, CDROM, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, Legacy LAN and Disabled.

Boot Up NumLock Status

The default value is On.

On (default)	Keypad is numeric keys.
Off	Keypad is arrow keys.

Typematic Rate Setting

Keystrokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected. The settings are: Enabled/Disabled.

Typematic Rate (Chars/Sec)

Sets the number of times a second to repeat a keystroke when you hold the key down. The settings are: 6, 8, 10, 12, 15, 20, 24, and 30.

Typematic Delay (Msec)

Sets the delay time after the key is held down before beginning to repeat the keystroke. The settings are 250, 500, 750, and 1000.

Security Option

This category allows you to limit access to the system and Setup, or just to Setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup (default)	The system will boot, but access to Setup will be denied if the correct password is not entered prompt.

MPS Version Control for OS 1.4

This option is only valid for multiprocessor motherboards as it specifies the version of the Multiprocessor Specification (MPS) that the motherboard will use.

OS Select for DRAM > 64MB

Allows OS2® to be used with >64MB or DRAM. Settings are Non-OS/2 (default) and OS2. Set to OS/2 if using more than 64MB and running OS/2®.

HDD S.M.A.R.T Capability

This option allow you to enable the HDD S.M.A.R.T Capability (Self-Monitoring, Analysis and Reporting Technology) . You can choose from Enabled and Disabled.

3-5-1 CPU Features

Phoenix – AwardBIOS CMOS Setup Utility

CPU Features

Thermal Management	Thermal Monitor 2	Item Help
Thermal Monitor Bus Ratio	8x	
Thermal Monitor Bus VID	1.084V	Menu Level >
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help		
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

Thermal Management

Thermal monitor 1 (on die throttling)

Thermal monitor 2 (Ratio&VID transition)

3-6 Advanced Chipset Features

The Advanced Chipset Features Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.

Phoenix – AwardBIOS CMOS Setup Utility

Advanced Chipset Features

DRAM Timing Settings	Press Enter	Item Help
VGA Timing Settings	Press Enter	
PCI Timing Settings	Press Enter	
Memory Hole	Disabled	Menu Level >
System BIOS Cacheable	Enabled	
Video RAM Cacheable	Disabled	
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help		
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

System BIOS Cacheable

Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result. The settings are: Enabled and Disabled.

3-6-1 DRAM Timing Settings

Phoenix – AwardBIOS CMOS Setup Utility

DRAM Timing Settings

Auto Configuration	By SPD	Item Help
* DRAM CAS Latency (TCL)	SPD	
* RAS Active Time (Tras)	17T	Menu Level >>
* ROW Precharge Time (Trp)	5T	
*RAS to CAS Delay (Trcd)	5T	
DRAM Bank Interleaving	Enabled	
DDR Burst Length	SPD	
DRAM Command Rate	2T	
DDR Y Table	Optimize	
ODT	Disabled	

↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

Auto Configuration

The default setting is By SPD. User can set it as Manual to enable 4 sub items below it:

***DRAM CAS Latency (TCL)**

The optional settings are 2T, 3T, 4T, 5T, 6T and SPD.

***RAS Active Time (Tras)**

The optional settings are from 5T to 20T.

***Row Precharge Time(Trp)**

The optional settings are 2T, 3T, 4T, 5T and 6T.

***RAS to CAS Delay(Trcd)**

The optional settings are 2T, 3T, 4T, 5T and 6T.

DRAM Bank Interleaving

User can activate DRAM Bank Interleaving by set the item as Enabled. The optional settings are: Enabled; Disabled.

DDR Burst Length

User can set it as 4,8 or SPD. The optional setting is SPD.

DRAM Command Rate

The optional settings are: 2T; 1T.

3-6-2 VGA Timing Settings

Phoenix – AwardBIOS CMOS Setup Utility

VGA Timing Settings

VGA Share Memory Size	128M	I tem Help
Direct Frame Buffer	Enabled	
Select Display Device	CRT	
* Panel Type	OL	Menu Level >>
-1024 x 768, ch1, Dithering	Disabled	
*Output Port	DTO	
*Dithering	Disabled	
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

VGA Share Memory Size

The optional settings are: 64M, 128M and 256M.

Buffer Select Display Device

The options are: CRT, LCD and CRT+LCD.

3-6-3 PCI Timing Settings

Phoenix – AwardBIOS CMOS Setup Utility

PCI Timing Settings

PCI Master0 WS Write	Enabled	I tem Help
PCI Delay Transaction	Enabled	Menu Level >>
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

3-7 Integrated Peripherals

Phoenix – AwardBIOS CMOS Setup Utility

Integrated peripheral

Onboard IDE Function	Press Enter	Item Help
Onboard Device Function	Press Enter	
Onboard Superio Function	Press Enter	Menu Level >>
USB Device Setting	Press Enter	
Init Display First	PCI Slot	

↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

3-7-1 Onboard IDE Function

Phoenix – AwardBIOS CMOS Setup Utility

Onboard IDE Function

SATA Function	Enabled	Item Help
SATA/RAID Mold	IDE	
Onchip IDE Channel1	Enabled	Menu Level >>
IDE Predetch Mold	Enabled	
Secondary Master PIO	Auto	
Secondary Slave PIO	Auto	
Secondary Master UDMA	Auto	
Secondary Slave UDMA	Auto	
IDE DMA Transfer Access	Enabled	
IDE HDD Block Mold	Enabled	

↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

Secondary Master/Slave PIO

The two IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the two IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device. The settings are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

Secondary Master/Slave UDMA

Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA133, select Auto to enable BIOS support. The settings are: Auto, Disabled.

IDE DMA Transfer Access

The integrated peripheral controller contains an IDE interface with support for one IDE channels. Select Enabled to activate each channel separately. The settings are: Enabled and Disabled.

IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support. The settings are: Enabled, Disabled.

SATA Function

This item allows you to control Serial ATA controller by setting it as Enabled or Disabled.

SATA/RAID Mold

The optional settings are IDE; RAID.

3-7-2 Onboard Device Function

Phoenix – AwardBIOS CMOS Setup Utility

Onboard Device Function

Onboard HD Audio Device	Auto	Item Help
Realtek Lan1 Device	Enabled	Menu Level >>
Realtek Lan1 Bootrom	Disabled	
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

Onboard HD Audio Device

This item allows you to decide to enable/disable the chipset family to support HD Audio. The settings are: Enabled, Disabled.

RealTek LAN1 Bootrom

Decide whether to invoke the boot ROM of the onboard LAN chip.

3-7-3 Onboard Super IO Function

Phoenix – AwardBIOS CMOS Setup Utility

Onboard Super IO Function

Onboard Serial Port1	3F8/IRQ4	Item Help
Onboard Serial Port2	2F8/IRQ3	
Onboard Serial Port3	3E8/IRQ5	
Onboard Serial Port4	2E8/IRQ10	Menu Level >>
UART Mold Select	Normal	
*IR Duplex Mold	Half	
Onboard Parallel Port	3F8/IRQ7	
Parallel Port Mold	SPP	
*ECP Mold Use DMA	3	
Watchdog Timer Select	Disabled	
*Watchdog Timer Value	255	
*WATCHDOG Timer Unit	Sec.	

↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

Onboard Serial Port 1/2

The optional settings are：Disabled, 3F8/IRQ4，2F8/IRQ3, 3E8/IRQ4，2E8/IRQ3, and Auto.

Onboard Serial Port 3/4

The optional settings are：Disabled, 3F8/IRQ5，2F8/IRQ10, 3E8/IRQ5，2E8/IRQ10 and Auto.

UART2 Mode Select

This item allows you to determine which InfraRed(IR) function of the onboard I/O chip. The optional settings are Normal and IrDA.

IrDA Duplex Mode

This field is available when UART Mode is set to either ASKIR or IrDA. This item enables you to determine the infrared function of the onboard infrared chip. The options are Full and Half

(default). Full-duplex means that you can transmit and send information simultaneously. Half-duplex is the transmission of data in both directions, but only one direction at a time.

Onboard Parallel Port

The optional settings are: Disabled, 378/IRQ7, 278/IRQ5 and 3BC/IRQ7.

Parallel Port Mode

SPP : Standard Parallel Port

ECP : Enhanced Com Port

EPP : Enhanced Parallel Port

SPP/ ECP +EPP 1.7/ EPP 1.9

To operate the onboard parallel port as Standard Parallel Port only, choose "SPP." To operate the onboard parallel port in the EPP modes simultaneously, choose "EPP." By choosing "ECP", the onboard parallel port will operate in ECP mode only. Choosing "ECP+EPP" will allow the onboard parallel port to support both the ECP and EPP modes simultaneously. The ECP mode has to use the DMA channel, so choose the onboard parallel port with the ECP feature. After selecting it, the following message will appear: "ECP Mode Use DMA" at this time, the user can choose between DMA channels 3 to 1. The onboard parallel port is EPP Spec. compliant, so after the user chooses the onboard parallel port with the EPP function, the following message will be displayed on the screen: "EPP Mode Select." At this time either EPP 1.7 spec. or EPP 1.9 spec. can be chosen.

Watchdog Timer Select

This item is used to activate the watchdog function. The optional settings are: Enabled; Disabled. When set it as Enabled user can choose configuration figures in subitems.

Watchdog Timer Value

This item is only activated when Watchdog Timer Select is set as Enabled and users can set a value from the range of 0~255

Watchdog Timer Unit

This item is only activated when Watchdog Timer Select is set as Enabled and the optional units are: Sec. and Min..

***Note: User needs an additional Watchdog Programming Reference Code to make use of this BIOS function. Detailed procedure please download from our website if necessary.**

3-7-4 USB Device Setting

Phoenix – AwardBIOS CMOS Setup Utility

USB Device Settings

USB 1.0 Controller	Enabled	Item Help
USB 2.0 Controller	Enabled	
USB Operation Mold	High Speed	Menu Level >>
USB Keyboard Function	Enabled	
USB Mouse Function	Enabled	
USB Storage Function	Disabled	
↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Optimized Defaults F7:Standard Defaults		

USB 1.0/2.0 Function /Keyboard/Mouse /Storage Support

Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have a USB mouse /keyboard/USB storage device. The settings are: Enabled, Disabled.

USB Operation Mold

The optional settings are Full/ Low Speed and High Speed.

3-8 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy saving while operating in a manner consistent with your own style of computer use.

Phoenix – AwardBIOS CMOS Setup Utility

Power Management Setup

		Item Help
ACPI function	S1(POS)	Menu Level >
Assign IRQ For ACPI	IRQ 9	
Video off option	Suspend-off	
Video off Method	V/H SYC+Blank	
MODEN USE IRQ	3	
Power Button Function	Instant off	
Power Sts after power failure	Always OFF	
HPET Support	Enabled	
WDRT Support	Disabled	
WDRT Run/stop	Stop	
WDRT Count	1023	
Wake UP Events	Press Enter	

↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

ACPI Function

The optional settings are S1(POS) and S3(STR).

Video Off Method

This determines the manner in which the monitor is blanked.

DPMS (default) Initial display power management signaling.

Blank Screen This option only writes blanks to the video buffer.

V/H SYNC+Blank This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

MODEM Use IRQ

If you want an incoming call on a modem to automatically resume the system from a power-saving mode, use this item to specify the interrupt request line (IRQ) that is used by the modem. You might have to connect the fax/modem to the motherboard Wake On Modem connector for this feature to work.

Power Button Function

Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake up

Alarms. This item lets you install a software power down that is controlled by the power Button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec, then you have to hold the power button down for four seconds to cause a software power down.

Wake Up Events

Users can press Enter to select the relative items for wake up events. Set it as Disabled or Enabled in Wake-Up on LAN, Wake-Up on Ring and Wake-Up on PCI card. Users can also enter password in PS2KB Wakeup.

Wake-Up on RTC Alarm

When set to Enabled, additional fields become available and you can set the date (day of the month), hour, minute and second to turn on your system. When set to 0 (zero) for the day of the month, the alarm will power on your system every day at the specified time .

Date (of month)

You can choose which month the system will boot up. Set to 0, to boot every day.

Time (hh:mm:ss)

You can choose what hour, minute and second the system will boot up.

Note: If you have change the setting, you must let the system boot up until it goes to the operating system, before this function will work.

3-9 PnP/PCI Configuration

Phoenix – AwardBIOS CMOS Setup Utility

Pnp/PCI Configuration

		Item Help
IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	Disabled	Menu Level >
Assign IRQ For VGA	Enabled	
Assign IRQ For USB	Enabled	

↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

PCI/VGA Palette Snoop

This item is designed to overcome problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

IRQ Resources

Names the interrupt request (IRQ) line assigned to the USB on your system. Activity of the selected IRQ always awakens the system.

3-10 PC Health Status

This section shows the Status of you CPU, Fan, and Warning for overall system status. This is only available if there is Hardware Monitor onboard.

Phoenix – AwardBIOS CMOS Setup Utility

PC Health Status

Shutdown Temperature	Disabled	Item Help
Show PC Health In Post	Enabled	
CPU Thermal-Throttling	Disabled	Menu Level >
* CPU Thermal-Throttling Temp	70c	
* CPU Thermal-Throttling Duty	50%	
* CPU Thermal-Throttling Beep	Enabled	
Smart fan configurations	Press Enter	
Vcore	1.10v	
+1.5v	1.52v	
+5v	4.81v	
+12v	12.07v	
+5VSB	4.98V	
VDIMM	1.84V	
VCC3	3.44V	
3.3 SUS	3.36V	
VBAT	3.23V	
CPU Temperature	20C/69F	
SYS Temperature	16C/69F	
CPU FAN Speed	6607 RPM	
SYS FAN1 Speed	0RPM	
SYS FAN2 Speed	0RPM	

↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

Show PC Health in Post

During Enabled, it displays information list below. The choice is either Enabled or Disabled

Shutdown Temperature

This item can let users setting the Shutdown temperature, when CPU temperature over this setting the system will auto shutdown to protect CPU.

Current CPU Temperature/Current System Temp/Current SFAN1, SFAN2 ,CPUFAN Speed/Vcore/ +1.5V/+5V/+12V/+5 VSB(V) /VDIMM/VCC3/3.3SUS/VBAT(V)

This will show the CPU/FAN/System voltage chart and FAN Speed.

3-11 Miscellaneous Control

Phoenix – AwardBIOS CMOS Setup Utility

Miscellaneous Control

Auto Detect PCI CLK	Enabled	Item Help
Spread Spectrum	Disabled	
*** Current Host Frequency is 100MHz***		Menu Level >
CPU Clock at Next boot is	100MHz	
***Current DRAM Frequency is	333MHz***	
DRAM Clock at Next Boot is	SPD	
CPU Clock Ratio	8X	
Vcore voltage	Default	
VCC1.05 Voltage	1.05v(Default)	
VCC 1.5 Voltage	1.50v(Default)	
VDIMM Voltage	1.84v(Default)	

↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help

F5:Previous Values F6:Optimized Defaults F7:Standard Defaults

Auto Detect PCI Clock

This item allows you to enable/disable auto detect PCI Clock. The settings are: Enabled, Disabled.

Spread Spectrum

This item allows you to set the Spread Spectrum Disabled or choose a setting in the category of+/-0.1%~+/-0.9%.

CPU **Clock at Next Boot**

Users can Page Up and Page Down or change the value. The optional range is from 100 MHz to 133MHz.

DRAM Clock at Next Boot

This item allows you to set DRAM clock. The optional settings are: DDR400; DDR533; DDR667 and SPD.

3-12 Password Setting

You can set either supervisor or user password, or both of them. The differences are:

Supervisor password: Can enter and change the options of the setup menus.

User password: Can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm that the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to “System”, the password will be required both at boot and at entry to Setup. If set to “Setup”, prompting only occurs when trying to enter Setup.

3-13 Load Standard/Optimized Defaults

Load Standard Defaults

When you press <Enter> on this item, you get confirmation dialog box with a message similar to:

Load Standard Defaults (Y/N)? N

Pressing <Y> loads the BIOS default values for the most stable, minimal-performance system operations.

Load Optimized Defaults

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N)? N

Pressing <Y> loads the default values that are factory settings for optimal performance system operations.